WHAT IS CLAIMED IS:

1. A system for communicating between distant regions, the system having at least one input port and at least one output port, the system comprising:

a first ring network comprising at least three first ring switching devices located in a first region, each of the first ring switching devices being connected to at least two of the other first ring switching devices;

a second ring network comprising at least three second ring switching devices located in a second region, each of the second ring switching devices being connected to at least two of the other second ring switching devices; and

a third ring network having two interconnected pairs of switching devices, a first interconnected pair of switching devices being connected between one first ring switching device and one second ring switching device, and a second interconnected pair of switching devices being connected between another first ring switching device and another second ring switching device;

wherein each switching device of the two interconnected pairs of switching devices enables bi-directional data transfer between itself and its connected first ring and second ring switching device.

2. The system of claim 1, wherein each of the at least three first ring switching devices and each of the at least three second ring switching devices are add-drop multiplexers.

3. The system of claim 2, wherein each switching device of the two interconnected pairs of switching devices is a time-division multiplexer.

4. The system of claim 3, wherein the time-division multiplexer is one of an optical time-division multiplexer and an electrical time-division multiplexer.

5. The system of claim 3, wherein the connection between each time-division multiplexer and each add-drop multiplexer comprises multiple connections each of which carries a percentage of total data being communicated.

6. A system for communicating between distant regions, comprising:

a first ring network having at least one data input/output port;

a second ring network having at least one data input/output port; and

a third ring network having two interconnected pairs of switching devices, a first interconnected pair of switching devices being connected between the first ring network and the second ring network, and a second interconnected pair of switching devices being connected between the first ring network and the second ring network;

wherein each switching device of the two interconnected pairs of switching devices enables bi-directional data transfer between itself and the first ring network and the second ring network.

7. The system of claim 6, wherein the first ring network and the second ring network each comprise at least three add-drop multiplexers.

8. The system of claim 7, wherein each switching device of the two interconnected pairs of switching devices is a time-division multiplexer.

9. The system of claim 8, wherein the time-division multiplexer is one of an optical time-division multiplexer and an electrical time-division multiplexer.

10. A system for communicating between a first region and a second region, the system having at least two conduits for carrying data, each conduit spanning between the first region and the second region, and each conduit having two ends, the system comprising:

at least four bi-directional switching devices, each end of the at least two conduits being connected to one of the at least four bi-directional switching devices;

at least six add-drop multiplexers, each of four of the at least six add-drop multiplexers being connected to one of the at least four bi-directional switching devices, and one add-drop multiplexer located in each region being interconnected with two of the add-drop multiplexers in each region; and

at least one input/output data port located in each region and connected to at least one add-drop multiplexer;

wherein each of the four bi-directional switching devices can transfer data to and from itself and the add-drop multiplexer connected thereto.

11. The system of claim 10, wherein the bi-directional switching devices are time-division multiplexers.

12. A communications network, the communications network having at least three add-drop multiplexers located in a first region, at least three add-drop multiplexers located in a second region, at least three data conduits located in the first region, at least three data conduits located in the second region, each data conduit connected to two add-drop multiplexers located in its corresponding region, at least two switching elements located in the first region, at least two switching elements located in the second region, each switching element being connected to one add-drop multiplexer in its corresponding region and connected to one switching element of a non-corresponding region, wherein each switching element facilitates bi-directional data transfer between itself and the add-drop multiplexer connected thereto.

13. A method of restoring data transmission in a communications network in the event of a failure in data conduits of the network, the communications network having at least three add-drop multiplexers interconnected by data conduits located in a first region, at least three add-drop multiplexers interconnected by data conduits located in a second region, at least two bi-directional switching elements located in the first region, and at least two bi-directional switching elements located in the second region, each bi-directional switching element in the first region being connected via tributary links to one add-drop multiplexer in its corresponding region and connected to one bi-directional switching element of the second region, the failure occurring such that at least one of the add-drop multiplexers and switching elements becomes isolated from the remaining network except for a tributary link, the method comprising the steps of:

sending by an add-drop multiplexer an alarm through the network signaling a preceding add-drop multiplexer that the sending add-drop multiplexer is not receiving data; and

switching the data path in a bi-directional manner across the tributary links restoring data routing through the communications network.